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GENERAL FISHERIES COUNCIL FOR THE MEDITERRANEAN (GFCM)

REPORT OF THE EIGHTEENTH SESSION

Monaco, 6-10 October 1986

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

Rome, 1987

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I. OPENING OF THE SESSION

1. The Eighteenth Session of the General Fisheries Council for the Mediterranean (GFCM) was held in Monte Carlo from 6 to 10 October 1986 at the Centre de rencontres internationales upon the kind invitation of the Government of His Highness Prince Rainier III of Monaco.

2. Participating in the discussions were representatives and observers from 11 GFCM Member States and observers from one non Member State and four international organizations. The list of participants is given in Annex B.

3. In his opening address the Chairman, Mr. Hadj Ali Salem, welcomed the participants and thanked the Principality of Monaco on behalf of the GFCM for its generous invitation.

4. Mr. Bernard Fautrier, Government Adviser for Public Works and Social Affairs, also extended a welcome to the Council. He outlined the pioneer work done in oceanography and oceanographic techniques by Prince Albert and later by His Highness Prince Rainier III, and cited Monaco's adhesion to the GFCM in 1954 as an indication of the Principality's interest in this field. He underscored the need for international cooperation in the development and rational exploitation of Mediterranean resources, and expressed the hope that the work of the Session would constitute a step forward in fishery resource management in the region.

5. Mr. Armin Lindquist, Assistant Director-General ad interim of the Fisheries Department, greeted participants on behalf of the Director-General of FAO. He expressed the Organization's thanks to the Principality of Monaco, particularly His Highness Prince Rainier III, for having hosted the Council for the second time. He recalled Monaco's long tradition of oceanographic research, stressing that the International Commission for the Scientific Exploration of the Mediterranean had made an important contribution to the body of scientific knowledge on this sea. Commenting that the Agenda faithfully mirrored the Council's work in fisheries management and development, Mr. Lindquist referred to the FAO World Fisheries Conference which had, in 1984, adopted a Strategy and Programmes of Action for Fisheries Management and Development. He expressed the hope that the delegations would report to the Council on progress achieved in these areas by their countries. He stressed the way in which the Council's full range of activities meshed together to further advance the rational management of Mediterranean fisheries, and noted the special part played by the GFCM's Committee on Resource Management. In conclusion, he expressed the hope that the Council would concentrate on action designed to have as direct an impact as possible on the future development and management of Mediterranean fisheries.

II. ADOPTION OF THE AGENDA

6. The agenda given in Annex A was adopted.

III. REPORT OF THE EXECUTIVE COMMITTEE

7. The Chairman presented the report of the forty-sixth Session of the Executive Committee which was held in Paris on 28 and 29 April 1986 (Document GFCM/XVIII/86/18) 1/.

1/ The list of documents presented to the Session is given in Annex C

8. Among the items discussed by the Executive Committee had been: the preparation of Statistical Bulletin No. 6; in this connexion the Committee stressed the fact that the collection and processing of statistical data was essential to the work of the GFCM and pointed out the advantages of special attention being paid to economic statistics, particularly on small-scale fisheries; the developments in the sub-regional consultations on stock assessment, and the Committee expressed satisfaction with the first consultation on Stock Assessment in the Eastern Mediterranean which had been very positive but expressed its regret that it had not been possible to organize the consultation for the Black Sea; the potential new management measures which could be taken by the Committee on Resource Management, particularly as a result of an ad hoc meeting of experts held on the management of Western Mediterranean resources; the developments of the Council's work in mariculture, artificial reefs and fishing technology: the state of preparation for the Third Technical Consultation on the Utilization of Small Pelagic Species in the Mediterranean Sea; progress in the discussions between FAO and the Italian Government on possible Italian help in financing a regional project on resource evaluation and management of Mediterranean fisheries; the status of the MEDRAP Project; preparations for the eighteenth Session of the Council.

9. Lastly, the Executive Committee expressed the view that a symposium might be held in conjunction with the Nineteenth Session of the GFCM, and suggested that delegations attending the Eighteenth Session propose topics for this symposium.

IV. MONITORING AND ASSESSMENT OF RESOURCES

A. Catch and effort statistics and economic statistics

10. The meeting addressed the issues raised in document GFCM/XVIII/86/3 in which the operation of the STATLANT 37 programme in the intersessional period was outlined (See Annex D). A number of improvements were noted but a major outstanding problem exists concerning the 37B form for the collection of data on catch and corresponding fishing effort. It was noted that this required separate reporting for different combinations of:

- fishing gear/method of fishing
- vessel type
- vessel size
- target species
- GFCM sub-area/division

A form was ready for despatch but had not been circulated in 1986 due to discussions concerning the value of the data for stock assessment purposes, and the instructions of the Council in this respect were sought.

11. The meeting was also informed of the effort now under way to eliminate discrepancies in data bases containing information on the same aspects of Mediterranean fisheries. This concerned principally EUROSTAT and the International Commission for the Conservation of Atlantic Tunas (ICCAT). Considerable discussion has been ongoing between ICCAT and FAO, and many data series had been referred back to countries for comment. As a result there was

now a large degree of agreement in data published by the two organizations. The cause of these discrepancies is the fact that data came from different sources - in the case of ICCAT from scientific institutes and in the case of FAO through national statistical offices. It seems that there is not always good communication between these different branches of government. It was also noted that data published in national statistical publications was often different from that submitted to FAO, often to the confusion of users.

12. The importance of economic data for policy makers, especially in the field of management, was underlined. However attention was drawn to the fact that the collection of such data represented a very wide range of statistical enquiry and that it could be very costly to maintain series of data on such a variety of economic variables. It was further questioned, given the relatively minor role of fisheries in many Mediterranean economies, whether governments could afford to maintain a full time secretariat for the analysis and interpretation of such data. It was suggested that when there was a problem to be tackled ad hoc studies aimed at the specific issue were probably more cost effective. Fishery departments could however influence the design of surveys covering all sectors of the economy, to ensure that the fisheries sector receives adequate coverage in such censuses.

13. A number of delegations commented on the importance of economic statistics while at the same time expressing awareness of their complexity and the cost of collecting them. It was suggested by some delegations that discussion of this topic should form part of the deliberations of the symposium which it was proposed to hold in connexion with the Nineteenth Session. During such a discussion, some of the more relevant economic variables on which data might be needed could be identified.

14. The need to determine the purpose for which statistical data was collected was emphasized by several delegations which noted that statistics should not be collected without some specific objective in view. In this connexion it was observed that the concepts of biological assessment were changing and that in the future data on catches and landings of a single species might be less important than those concerning the operation of a fleet or the behaviour of a stock.

15. Several delegations spoke of the poor liaison between scientists and administrators, and confirmed that this was a major cause of discrepancy in statistical data. The Italian delegation in particular noted that certain crustaceans were misclassified in GFCM Statistical Bulletin No. 6, probably due to this cause. Other countries e.g. Morocco noted that in their countries there was only one source of data but there was still however a problem of reliability.

16. Some participants commented on the STATLANT 37 B form, which could generate information useful for economic analysis, and the general feeling was that its introduction would be justified. Some delegates however indicated that their national authorities might have difficulty in completing such a questionnaire because of lack of data. It was also noted that indicators such as catch per vessel which could be derived from modified STATLANT B data would be useful for assessment purposes. It was urged that fishing effort data should be published in the GFCM Statistical Bulletin, and that in this connexion an index of effort in terms of horsepower would provide a link between the Bulletin and the Atlas of the Fisheries of the Western and Central Mediterranean.

B. Assessment

(a) Assessment at the sub-regional level

17. The Council reviewed and endorsed the recommendations of the four technical consultations (Documents GFCM/XVIII/86/5,6,7,8) held since its last session as summarized in document GFCM/XVIII/86/9 (See Annex E), and the following points reflect discussion on the question of sub-regional initiative in this field.

18. The Spanish delegation found the Workshop on Simple Analytic Methods for Stock Assessment held during the last Western Mediterranean Consultation very fruitful in promoting work toward a stock assessment methodology adapted to the special needs of the Mediterranean. These methods would be tried out over the next few years in assessing stocks. At the same time it was recognized that incorrect use of these approaches could lead to serious errors in population estimates.

19. The French delegation pointed to the change in perspective being experienced in the study of small scale fisheries, including a concentration on the "metier" or gear/vessel type and its performance, rather than emphasizing primarily studies on a species by species basis. This approach, though not exclusive of biological research, is easily integrated with research on social and economic aspects of fisheries.

20. In relation to the growing interest in computerized means for fish stock assessment, the Spanish delegation recommended the development of a library of computer software, and the promotion of its exchange through the Secretariat. This proposal was agreed to by the Council.

21. The delegation from Cyprus pointed out that the appropriate model for describing a fishery often became obsolete once management action was effected, and noted that in the absence of a readiness to apply stock assessment results in concrete management actions, there was little point in increasing national funding of research activities.

22. The Council endorsed the initiatives taken by several consultations toward including bio-economic criteria in future assessments, and noted that a need existed to reconcile at a national level the work programmes of fisheries economists and stock assessment workers. It was recommended to national fishery administrations that future collaboration between these two disciplines in the analysis of harvested population, and in the assessment of optimal fishing strategy be promoted, and their results presented at future consultations as a special topic, for example, for a minisymposium.

23. The delegation from Israel emphasized the special characteristics of Eastern Mediterranean fisheries: a low level of production with no one species dominant. This posed serious problems in devising an approach to resource research and management.

24. Despite this, a short list of key species was put forward by the Eastern Mediterranean Consultation for special attention, including Mullus barbatus, Merluccius merluccius, Pagellus erythrinus, Spicara maena, Boops boops, Saurida undosquamis for special attention with the possibility of developing an otolith exchange programme for these key species.

25. The Council considered this strategy to be particularly appropriate for both the Eastern Mediterranean and other sub-regions. The possibility of a wider cooperation on a species basis for important resources could form a possible topic for future GFCM meetings.

26. The influence of the Red Sea fauna in continuing to provide new species to the Levantine area, and hence to the Mediterranean as a whole, was also noted by the delegation from Israel.

(b) The role of the subregional consultations

27. A discussion ensued on the role of the consultations, and on different methods of assisting the Secretariat in achieving good results with the limited resources of manpower and funding referred to by Mr. A. Lindquist in his introductory statement.

28. The delegate from Turkey pointed out that his administration had found the report of the first Eastern Mediterranean Consultation extremely promising and useful, and underscored the importance of such consultations continuing. He emphasized that the countries of the Eastern Mediterranean were by and large underdeveloped from a fisheries perspective, and should therefore receive some priority for assistance from a FAO regional body, compared with countries which had access to other sources of support in the field of fisheries.

29. The delegate from Yugoslavia pointed to the great efforts made through the Adriatic Consultations, with the support of FAO, to push forward both our knowledge of Adriatic resources and their proper management, and cited the Consultations as a valuable mechanism to promote sub-regional collaboration between Albania, Greece, Italy and Yugoslavia, in the field of fisheries. He expressed considerable concern at the prospect that the present high impetus of work might not be maintained, and emphasized his Government's readiness to support initiatives that would help GFCM to maintain its present high effectiveness. He also noted that national research programmes were now to a significant extent integrated into the work of the Adriatic Consultations, for example the cooperative trawl surveys, and work underway on pelagic resources.

30. The importance of the sub-regional consultations in promoting bilateral or multilateral exchanges on fishery resources exploited by two or more countries was emphasized by the Council. In some cases, for example the Western Mediterranean and the Adriatic Consultations, this promised to lead directly to an improved understanding of the nature of the common exploitation of the resource, and a better climate for future negociations outside the context of GFCM.

31. At the same time, the importance of an exchange of information and results on special topics of a Mediterranean-wide nature was emphasized. This type of work might be published in the series GFCM "Studies and Reviews".

32. The point was made by the delegation from Yugoslavia that a proper financial balance needed to be maintained nationally between pollution research and fisheries research, as provided for in the Programmes of Action of the FAO World Fisheries Conference which have been endorsed by all Member States present at the Conference.

33. The delegation from Tunisia stressed the role of sub-regional cooperation in resource evaluation for planning and implementing fisheries development projects and emphasized the importance of reliable information on coastal fishery resources which played a major part in coastal settlement and generating employment in Tunisia.

34. The consultations had also begun to play an important role in bringing oceanographic expertise in the area into the fisheries arena. The Council noted with satisfaction work now underway to build an oceanographic data base, and to study the inter-relations between long-term environmental fluctuations and those of the resource, and supported this as a topic for future consultations.

35. In relation to the need to collate time series of oceanographic data in the Western Mediterranean for comparison with historical fisheries data, the representative of the Intergovernmental Oceanographic Commission indicated that the Commission is prepared to assist in analysis and compilation of such data.

36. Mr. A. Lindquist emphasized that FAO fully appreciated the important role being played by the consultations, which certainly should continue, and noted that the issue was being raised at this time on the assumption that member countries of GFCM understood that financial and manpower resources available to FAO were limited and in high demand, and in the hope that the Council could suggest some mechanisms for supporting the important work now in progress.

37. A number of approaches to increasing the effectiveness of and support to the Council's bodies were discussed. These included:

- combining sub-regional consultations and other meetings of the Council with special meetings (mini-symposia) on specific topics of key interest;

- promoting exchange of data, and the holding of mini-symposia on topics of Mediterranean-wide interest at future meetings of the Committee on Resource Management, and of the Council;

- giving the Secretariat the discretion to delay scheduling of consultations until the appropriate data and documentation had been submitted by member institutes and countries;

- the application of more rigorous criteria by the consultations to publication of background documents presented at the consultations;

- allocation of limited manpower by member countries to support the work of the Secretariat on a pro tem basis;

- in the context of special topics of Mediterranean-wide interest, it was felt that member countries might wholly support some initiatives of this type from their own resources, while retaining the sponsorship of the Council.

38. The Council was informed by the delegation of France of a planned symposium on the subject of analytical and study methods for coastal fisheries from a management perspective to be held in 1988 by IFREMER and ORSTOM and which might fit within this category. The possibility that experts might be made available for limited periods of time through the Council Secretariat to assist the Secretariat or other member countries in editing, data analysis or field work was also mentioned. It was also said that the mechanism of a trust fund to support special research activities of the Council was allowed for in the constitution of GFCM but that it had not been activated to date. This would have to be considered seriously if the Secretariat were to become involved in special meetings of interest to a limited number of member countries. The possibility of increasing the area coverage and hence reducing the number of consultations was also discussed.

39. A questionnaire, which is reproduced in Annex F, was prepared by the Secretariat on these proposed mechanisms. The results of the questionnaire completed by ten member countries present were analyzed and provided a useful barometer of their points of view. The individual responses will be maintained confidential but member countries who wish to confirm their support to the Secretariat were requested to do so in writing to the Secretariat. Referring to the questions listed in Annex E, the responses in general were as follows:

(i) the majority of members disagreed with a reduction in number of technical consultations of GFCM;

(ii) all delegations agreed, however, that their timing should remain flexible, and at the Secretariat's discretion;

(iii) most delegations agreed to allocate a few days during each consultation and in the Committee on Resource Management to topics of special interest, but there was less enthusiasm for using this mechanism at Council meetings;

(iv) (a) a majority of countries agreed to cover costs of hosting special meetings held in their countries; (b) more than 50 percent agreed to provide staff on a short-term basis; a significant fraction of responses indicated that this assistance would be provided at the member country's expense, for editing and for data analysis, or field work in support of the Council; (c) very few found it feasible to provide staff over a longer time period to assist the Secretariat.

Few countries are prepared to consider supporting the Secretariat's work through a trust fund, but a substantial proportion recognized that the cost of extra meetings of interest to only a minority of members of GFCM would need to be supported in this way.

C. Assessment of small-scale fisheries

40. The Sète Technical Consultation on Methods of Evaluating Small-Scale Fisheries in the Western Mediterranean (Document GFCM/XVIII/86/10) brought into focus some of the problems and needs for data collection in this key sector of Mediterranean fisheries. It highlighted the diversity of roles played by the small-scale sector, which in turn depended on national policy and the degree of development of the fisheries sector.

41. In those countries where small-scale fisheries are primarily private sector activities, the problem of data gathering can be severe, and seems to require a significant effort to gather the necessary data on a first-hand basis. In situations where there is significant State intervention in the organization and development of this sector, data collection may be facilitated. No single data system seems applicable: each will have to be designed to reflect the structure of the fisheries sector in a particular region; nevertheless, an appropriate data storage and analysis system is recognized by the Council as of key importance.

42. Most small-scale fisheries are multi-species, in which the target species, gear type and area fished vary seasonally according to market and species availability. The perspective suggested by this Consultation and which was agreed to by the Council is that attention be focussed on characterizing the gear/vessel type and its seasonal performance, in terms of gear used, species and areas fished, unit prices received, and costs of fishing.

43. It was also recognized that the small-scale sector in the Mediterranean is in a continual state of evolution, reflecting new markets and technologies. Retrospectively, analyses often show that the age structure of fleet components is more characteristic of a series of waves of investment, than of a steady state situation. Monitoring availability of credit, sales of gear, and construction of new boats, in addition to market prices, may provide additional information on changes in the fishery which could in part explain future levels of exploitation.

44. The Consultation found also that reconciling the data needs of economists and biologists and the best strategy for collection of their respective data bases might not be easy but was likely to be a profitable objective nationally speaking. It would be necessary, for example, to consider economic and biological data in deciding on the relative priority to be given nationally to managing trawl fisheries versus small-scale fisheries, and to both of those sectors versus aquaculture.

45. The Council noted however, that analysis of small-scale fisheries data was still problematic at this stage, and that conceptual frameworks and models were in an early state of development.

46. The high vulnerability of the small-scale sector due to the limited geographical range of the small-scale fleet which can lead to adverse social impacts, was noted by the Tunisian delegation. This required attention to questions of access to near-shore areas by the industrial trawl fleet. The fragile economic state of most small-scale fleets also argued for setting aside certain resources for their use.

D. Mapping fisheries data and a Mediterranean geographical data base for fisheries

47. The Atlas of the Fisheries of the Western and Central Mediterranean (Document GFCM/XVIII/86/4) has been presented at all consultations on stock assessment and was found very useful by participants, particularly in the preparation of national fishery charts. It was recognized that other types of geographical information of a variety of specialized types existed, and the Council recommended that these be assembled by one or more institutes in the region for eventual updating of the above-mentioned Atlas.

48. The Council recognized the key role of such an information base in planning, research and management of coastal fisheries, and recognized that the development of coastal aquaculture, the use of artificial reefs, and the allocation of fishing zones and areas of closure depend on the proper definition of such data bases.

49. The Israeli delegation expressed its real interest in seeing such a fishery atlas extended to the Eastern Mediterranean and requested the Secretariat to explore the possibilities of beginning arrangements for the production of such an atlas before the next consultation in the Eastern Mediterranean.

50. The attention of the Council was drawn to the existence of the SPOT satellite, in operation since March 1986, as a facility useful for remote sensing in the region. The importance of such imagery in cartography was recognized by the Council, which noted that with these new technical developments it would now be possible to map fisheries-relevant information in a close to real time fashion for functions such as forecasting catches by fleet and by fishing area.

51. The Secretariat informed the meeting of new initiatives in mapping and remote sensing, which included preparations of FAO Fisheries Reports in 1987, and of a global course in remote sensing applications for marine fisheries to be held in Rome in May 1987; application forms for that course were provided to participants; official nominations should be submitted by member governments.

V. MANAGEMENT OF RESOURCES AND FISHERIES

A. Consideration of the report of the Sixth Session of the Committee on Resource Management

52. The main conclusions of the Committee (Document GFCM/XVIII/86/11) were presented by the Secretariat for discussion by the Council. It was generally agreed that significant progress in fisheries management was being made by several countries and that there was a growing recognition of the need to implement research recommendations in the form of concrete management measures.

53. The delegation from Italy reported on progress being made in bringing in new national fisheries regulations. To date, anyone was able to obtain a fisheries permit. This would soon be changed to a license which only applied to a limited number of fishing boats licensed to fish a given gear, area (43 management areas around the coast of Italy) and resource. It was proposed that in several years time, a start would be made at reducing the number of licenses to a level matching the ability of the resource to support them.

54. The Tunisian delegate confirmed the importance of planning, though noting that planning was usually carried out under social and economic pressure, and for this reason might not always be timely. He referred to the coral fishery, now forbidden, which had led to the requirement to assist former coral fishermen to exploit other resources. The optimal strategy for managing the important shrimp fishery, and ways of increasing the yield from the octopus fishery, were key concerns. He suggested that fisheries managers be made more aware of new developments in the field of research such as those presented in the technical consultations.

55. The delegation from Cyprus summed up the effects of the management measures implemented in 1982. These were aimed at protecting juveniles by closing the fishery to trawling in October (so extending the closed period from 4 to 5 months), while simultaneously limiting the trawl fishing effort and freezing the total power of the fleet. The effects of the measures were that trawl catches practically doubled the following year and the catches of the inshore fishery increased by 38 percent and 68 percent in the following two years (1983-1984). High catch levels continued in 1985 with further increases in the total catches of the inshore fishery. The better state of the stock and higher catch levels encouraged more intensive fishing in terms of total number of working days by the limited trawl fishery (25 percent from 1982 to 1985) and by an expansion of the unlimited inshore fishery (32 percent in the same period). An up-to-date survey of data showed that although the total catch had increased in the trawl fishery, the catch rates had dropped somewhat with increases in fishing effort, while in the inshore fishery, apparent increases in the catch rate were probably due to incipient but significant changes in the fishing gear used (more nets, monofilament net, etc.), which so far had not been taken into account in measuring fishing effort. Additional measures had been proposed to the industry which is now convinced of the effectiveness of good management. The following measures were soon expected to come into effect:

- the closed period to trawling was to be extended until the 15th of October,
- there would be a limitation of the number of inshore fishing licenses to be granted,
- monofilament nets were to be banned with a grace period to allow use of existing nets,
- mesh size regulations would be introduced for trammel and gillnets (32 mm),
- a reduction in the number of hours of trawling per day would be introduced.

The philosophy behind these measures was (a) to continue to protect juveniles, and, (b) to limit total fishing effort in all sectors of the industry.

56. The delegate from Yugoslavia noted that the question raised at the last Adriatic Consultation still remained: were we going to regulate mesh size alone, or together with a regulation of fishing effort? As suggested by some experts this coupling of the two measures would be a necessary condition for a successful programme for increasing mesh size. He noted nevertheless that his Government had increased the mesh size, especially in the small-scale sector. Regulations such as those on gear and closed areas, should of course be adjusted according to the biological and stock availability prevailing along the coast.

57. The delegate from Greece referred to the difficulties of organizing and managing the fisheries sector with 15 000 km of coastline, 3 000 islands and several hundred ports. Progress was being made however: last year the use of nets by sports fishermen was forbidden, and mesh size regulations were now being revised. Hopefully, new regulations would be introduced in 1987.

58. The delegation from Israel noted that following the recommendations of the last two sessions of GFCM, they were proposing to license boats by gear and area. These regulations were proposed to come into effect in 1987.

59. The delegate from Spain described recent experiences with a new strategy to supervise enforcement of fisheries regulations in the Balearic Islands. The strategy followed was to detect and penalize infringements to fisheries regulations throughout the commercial cycle from capture to end users.

60. The first operation, begun in March 1986 to enforce mesh size regulation, consisted of port measurement of codend mesh sizes of wet trawls. It was found that 14.95 percent were illegal (31-36 mm), 25.62 percent acceptable (36-38 mm), and 59.43 percent legal or much above legal mesh size (38-47 mm). These figures referred to a total of 281 gear measured on 77 vessels. Gear respecting the legal mesh size was marked with lead markers identifiable in at-sea inspections. The others have been withdrawn.

61. In April-September, visits to restaurants detected illegal sized fish and fish without sales slips from the market, or with harpoon wounds; possessors of these fish were penalized. These measures were designed to close off outlets to illegal methods of fishing and protect young fish and inshore nursery areas as well as posidonia beds. A high percentage of infractions were thus detected and penalized, the problem of illegal fishing having been tackled both at the origin and during the commercial cycle.

62. The delegate from Morocco made a distinction between two categories of resources. The first was non-migratory species, especially demersals, which remained within national jurisdiction: proper management here depended on the will of the governments concerned to control not only trawl mesh size but also small-scale fishermen. The second category was migratory species exploited by more than one country. Here cooperative action was needed. He noted that we had seen little evidence for such cooperation so far on resources exploited in common by two or more countries in GFCM, and referred to sardine and anchovy resources of the Sea of Alboran. Joint surveys and exchange of catch information by area and season were minimal requirements for progress, and he noted that exploiting stocks in common meant sharing information also. He felt that this kind of activity should be scheduled by the Council.

63. The delegate from Spain agreed with Morocco on this point, and referred to the Spanish Government's growing awareness of the need to manage such stocks. The two cases of current concern to Spain were the Sea of Alboran pelagic stocks, and the Gulf of Lions demersal resources, the latter discussed in the ad hoc meting held in Rome this year. He felt that there was the possibility of moving forward at the fifth Technical Consultation on Stock Assessment in the Balearic and Gulf of Lions Statistical Divisions planned for Fuengirola, Spain, toward the end of 1987, on one or both of those issues. Concerning the sea of Alboran resources, it was therefore proposed that Spain and Morocco meet during the present GFCM session to establish a programme of work leading up to the meeting in Spain, and inform the Algerian authorities who were not present at the session, via the Secretariat, of their plans in this regard.

64. The delegate from Turkey pointed to the problems faced in starting to regulate national fisheries in countries with very long coastlines and many isolated landing points. The current embryonic state of formulation and enforcement of regulations could only be tackled, he felt, by an improved biological data base, and research in support of management was a current high priority.

65. The Technical Secretary gave a brief review of the work of the ad hoc meeting referred to in paragraph 63, whose report was still not finalized for general distribution, pending the necessary revisions.

66. The delegate from France expressed satisfaction with the work carried out by the ad hoc meeting on the Gulf of Lions, while noting that implementation of the recommendations of the group would require that the extra data requested by the group from France and Spain be supplied and incorporated in a revised assessment. He referred to the current interest in the European Parliament in investigating approaches to resolving fisheries problems of this kind, and noted that any final resolution of the appropriate management measures should be solved within an EEC context.

67. After consultation with the Moroccan delegation, the Spanish delegation noted that the next technical consultation in Fuengirola would take up the question of evaluating the pelagic stocks exploited in common in the Sea of Alboran, and that a special ad hoc meeting was not required. The purpose was to set up a standard, common data base. Before February 1987, the two delegations would submit to the GFCM Secretariat specifications for the data to be supplied by countries, based on the discussions held between members of the Spanish and Moroccan delegations. Mr. Jesús Crespo of the Fuengirola Instituto Español de Oceanografía would coordinate the work of preparing the data base in coordination with the GFCM Secretariat. The data should be available for the Fuengirola consultation.

68. Morocco and Spain would submit a plan of work to the Secretariat by February-March 1987 for forwarding to other countries involved, and could meet just before the consultation to hammer out the preliminary results for presentation to the consultation for further discussion.

69. The Spanish delegation also pointed out that if the ad hoc Working Party set up to evaluate demersal stocks in the Gulf of Lions were not to meet before, then it would be advisable to have the data on exploitation of these stocks (time series on the fishing effort in number of vessels, engine power, days at sea), and on catches by species caught by trawling, long lining and gillnetting in the Gulf of Lions presented at the technical consultation in Fuengirola, so as to better evaluate these stocks which are exploited in common by both France and Spain.

70. The Secretariat presented some tentative guidelines developed for future ad hoc meetings of the kind held in Rome. These guidelines (see Annex G) were discussed by the Council and adopted without modifications.

71. The delegate from Spain felt that the guidelines as proposed were appropriate and useful, and added an important new mechanism to increase the effectiveness of the Council. In view of the extra expenses to be incurred by the Secretariat however, it was felt that, to the extent possible, the sub-regional consultations were the appropriate venue for scheduling meetings on concrete assessment items.

B. Coastal management: lagoons, open sea shellfish culture, and articifial reefs

72. The report of the Technical Consultation held in Ancona in March 1986 (Document GFCM XVIII/86/12) was presented by Mr. R. Raimbault, co-ordinator of the meeting with Mr. G. Bombace.

73. The speaker first pointed out that some sixty people had attended the meeting, an indication of the interest aroused by the topics on the agenda. He then emphasized that three days had been too brief a time to derive the full benefit from a meeting of this sort. This first consultation was therefore to be thought of as a sort of early or tentative data base, necessary and of great importance, but with ample room for growth and development.

74. The nature and objectives of the two activities were reviewed:

(a) the objective of open sea shellfish culture was to make the best possible use of open coastal areas (subject to every vagary of the weather) for shellfish farming. This was a goal which demanded the development of completely different techniques from those used in protected shellfish culture, which had until very recently been the only kind of environment in which shellfish were reared;

(b) artificial reefs were submerged physical structures designed to achieve the following and diverse results:

- to boost the production of marine life by offering surface areas for colonization by sessile species and by creating niches and shelters for vagile and benthic species, particularly fish and crustaceans at the most vulnerable stages of growth;

- to attract and hence concentrate existing fishery resources, thereby creating richer fishing grounds;

- another reason for building artificial reefs was to prevent trawlers from fishing in areas closed to trawling and where their activity had a deleterious impact on both flora and fauna.

75. Participants were reminded that, basically, there were now three Mediterranean countries with experience in the two subject areas under discussion: Bulgaria in shellfish farming, and France and Italy in both shellfish farming and artificial reefs.

76. The position of these three countries was not comparable in terms of how these activities were regarded. Italy was in the original position of having developed mussel culture as a sort of epiphenomenal offshoot of the creation and presence of reefs. Though mussel culture was still closely linked to the presence of reefs, it was gradually tending to develop, with time, along independant lines. The upshot was that it had become practically impossible to dissociate the two themes of this Consultation as far as Italy was concerned. (Some Italian sectors had, it ought to be noted however, pursued a line of development much closer to the French and Bulgarian approaches). In these latter two countries, efforts to establish open sea shellfish culture had been

completely extraneous to the development of artificial reefs. The objective from the very outset had been to develop techniques specifically designed for exploitation of shellfish alone. Moreover, the design of artificial reefs in France had been directly inspired by the experience and achievements of the countries most advanced in these techniques, with no special prior plan for their utilization in shellfish farming.

77. These prospects for the development of open sea shellfish farming and artificial reefs were highly promising. The Consultation noted the major shift toward production in the three countries primarily concerned. Some countries indicated that they intended to develop these production techniques as well.

78. The Council, basing its decision on the highly positive conclusions of the Consultation, decided to pursue its activities in the domains covered by the Ancona meeting and proposed that a second Consultation be held during the upcoming inter-sessional period. The experience in Ancona led the Council to suggest that the topics of open sea shellfish farming, artificial reefs and so forth - be dealt with in two separate consecutive sessions, followed by a final summing-up session.

79. The Italian delegation proposed that the upcoming Consultation be designated as "Technical Consultation on Structures and Technologies Designed to Boost Coastal Production", to avoid limiting the topics for discussion, and also offered to host the meeting anew in Ancona sometime in or around March 1988, unless some other country should wish to host the Consultation.

80. The Council took note of the arrangements made by the Secretariat as a follow-up to the GFCM Expert Consultation on the Management of Coastal Lagoon Fisheries held in Rome in September 1983, for the preparation of manuals on various management issues and specific problems (Document GFCM/XVIII/86/13).

81. Three manuals were currently being prepared; these dealt with "bordigues", problems posed by lagoon management, and suitability of a site for management. Their geographical focus would be expanded from the Mediterranean area to include world-wide lagoon coverage, where possible. They were expected to be finished in 1986.

82. The Council also took note that a study on management of fisheries and aquaculture coastal lagoons in Italy was in the process of preparation. Additional studies were planned on the hydrological management of coastal lagoons for fisheries and aquaculture, on the socio-economics of the management of coastal lagoon fisheries, and on the question of harmonizing fishing and aquaculture in coastal lagoons. These studies were expected to be ready in 1987.

C. Other activities in the field of management

(a) General

83. The Council discussed in general terms, the lessons to be drawn from experiences such as those described by Cyprus, Israel, Italy and Spain in management of their fisheries, and further national experiences were described.

84. The delegate from Italy commented on the positive results obtained by Cyprus in its recent management programme, but pointed to the difficulties faced by some countries in collecting the data desirable to support such a measure.

85. The delegate from Israel amplified that new species had been entering the fishery over the last fifty years, and that now up to one quarter of the fish catch and up to 80-90 percent of shrimp catches were based on these new species. These species were also important in Egypt, the Southern coast of Turkey, and to a lesser extent, in Cyprus and Libya. However, despite this important contribution in replacing and adding to existing fauna, and although the staff to carry out formal stock assessments had not been readily available, it was a reasonable conclusion that the continued production of commercial-sized species in a rather unproductive area, was due to a considerable extent to the fishery regulations in place: in particular, the mesh size of more than 40 mm (stretched) was believed to have been effective in this regard in improving the fishery. The delegate warned against waiting too long for perfection of the data base before taking correct action; the positive experiences of other countries in taking concrete actions was at least as important. In particular, he recognized the useful precedent offered by Cyprus in protecting the incoming year class by a trawling closure while they were on the inshore nursery area. The possibility of a similar management approach in other countries seemed to exist. He also mentioned the extreme importance accorded to the holding of a second Eastern Mediterranean consultation, in light of the scarcity of stock assessment experts in the Eastern Mediterranean.

86. The EEC representative referred to the report of the Committee on Resource Management, noting that four of its recommendations were included in the list of projects supported by the EEC in the coming year, namely on the following subjects:

- protection of nursery areas
- stock identification
- species substitution in exploited populations
- improved knowledge of tuna and other large pelagics in the Mediterranean.

(b) Red coral

87. The delegate from Spain noted that in the last Technical Consultation on Red Coral Resources of the Western Mediterranean and their Rational Exploitation held in 1983 in Palma de Mallorca, the Spanish delegation was charged with checking on the interest in a follow-up meeting. He noted however that no proposals had been made so far that seemed to justify a second meeting. Spain had made progress in limiting the number of licenses issued for this fishery, and had banned the use of the "Italian bar". This legislative action ought to be followed up at the multilateral level, i.e., in GFCM, national regulations being applicable solely within the 12-mile limit.

88. The delegate from Tunisia stated that his country was interested in methods of surveying red coral resources, and asked assistance of France and Italy in protecting this resource.

89. The delegate from Monaco referred to the implementation into law of a recommendation of the Consultation on Red Coral, which barred harvesting of red coral on an indefinite basis in the Monaco coastal area.

90. This discussion closed with a recommendation by the Council that a second Technical Consultation on Red Coral Resources of the Western Mediterranean and their Rational Exploitation be held during the intersessional period.

(c) Tuna

91. The delegate from Tunisia, though in agreement with the need for further cooperation on tuna research and management in the Mediterranean, indicated that the fishing effort far outweighed the annual catch in his country. Approximately 2 000 tons a year were taken by two traps (madragues) and 40 purse seiners. The observer from ICCAT referred to the importance of obtaining proper data from non-member as well as member countries in assessing Mediterranean stocks, and referred to regulations now in place on the Atlantic bluefin stock, a species found both in the Mediterranean and the Atlantic; namely a size limit of 6.4 kg based on yield per recruit calculations, and a recommendation that fishing mortality of this species not be increased. All parties were urged to bear these regulations in mind in their fishing management, and even though it was recognized that those measures were not fully adequate for protection of the bluefin spawning stock, in general the Council supported the efforts of ICCAT in tuna conservation.

92. The delegation from Yugoslavia expressed its interest in the ICCAT and EEC initiatives: the Adriatic might be a spawning and nursery area for bluefin tuna. The cooperation of Yugoslavia in these initiatives was offered.

93. The long history of research, and the existence of long series of data on bluefin catches by traps and other gear in the Mediterranean was noted. One feasible option would be to analyze this data before launching into new research. The observer from ICCAT then specified that all the data on tuna accumulated in the past were in the computerized data base of ICCAT. This data base was available to non-member as well as member countries of ICCAT. He emphasized that up-to-date tuna catch and size data were essential to correct stock assessments. ICCAT was prepared to send experts to assist countries (even if not members) in setting up log books or data storage systems, and even offered limited funding for this programme.

(d) Demersal resources

94. The delegate from Monaco noted that the three commercial fishermen operating off Monaco reported improved catches (500 kg/boat/day) of demersal fish offshore from the marine reserve set up in the Principality. This suggested that such a fishing closure could be effective in improving fish stocks.

95. The Spanish delegate referred to the decline in mean size noted in spiny lobster catches in the Balearic Islands, which in part reflected the use of trammel nets. A return to the use of pots in this fishery was being encouraged, and, in the meantime, small lobsters were being released in areas of the bay of Palma where artificial reefs had been constructed.

VI. FISHING TECHNOLOGY AND ITS SOCIO-ECONOMIC ASPECTS

96. The Secretariat reported briefly on the work of the Technical Consultation on Fishing Technology and its Socio-Economic Aspects held in Ancona, Italy, from 20 to 22 March 1986 (Document GFCM/XVIII/86/14) as follows: presentation of country situations, special concerns and research; reports of special studies on trawls, trawling and energy saving; improvements in passive fishing gear, (gillnets, longlines), and manoeuvering passive gear.

97. The discussions of the Council centred on one particular recommendation of the Consultation which is accordingly reproduced below:

RECOMMENDATION

The Technical Consultation on Fishing Technology and its Socio-Economic Aspects:

Considering that the use of proper mesh sizes constitutes one of the aspects of rational management of fisheries in the Mediterranean;

Considering also that other aspects of this management are control of fishing effort and protection of juveniles;

Regrets that Recommendation I/76/1 on a mesh size of 40 mm is not consistently implemented, and

Recommends that member countries of GFCM that have not already done so take the necessary measures to implement it;

Further recommends that member countries:

Complement this arrangement by the establishment of mechanisms to control fishing effort;

Take measures to encourage and facilitate the conversion of small-scale trawling to small-scale coastal fishing with passive gear;

Encourage initiatives to protect the coastal strip and use it to best advantage.

98. Several delegations stressed their full approval of this recommendation, and particularly insisted on the need to control the fishing effort.

99. Here, the delegations of Morocco and Cyprus mentioned their present concern over the utilization of monofilament twine and netting. Spain reported on the use of increasingly effective gear for lobster fishing and the concern which this trend had aroused among officials in the fishery administration.

100. Practical problems in evaluating and controlling the fishing effort were also noted.

101. Moreover, technological advancement and expanding expertise needed to be taken into account, in statistics for example, if any valid attempt were to be made to evaluate the real fishing effort.

102. The delegation from Morocco also noted that the background information needed to control the fishing effort and draw up the legislation on the construction and utilization of various gear such as gillnets, dredges and so forth was conspicuous by its absence; expressed the hope that FAO could help bridge this gap.

103. Concerning the observance of the 40 mm mesh size regulation, several participants pointed out the practical problem of exercising control over stocks exploited by the fleets of several countries.

104. Lastly, some participants considering that modern technology allows for huge catches and that the potential for marketing fish products (such as maxi-catches of small pelagic fish) exists, expressed the hope that an attempt would be made to achieve optimal sustainable yield and make every effort to take full advantage of the full range of fish products harvested.

VII. UTILIZATION AND MARKETING OF SMALL PELAGIC SPECIES

105. The Secretariat reported briefly on the work of the Second Technical Consultation held in Zadar, Yugoslavia, from 7 to 10 May 1985 (Document GFCM/XVIII/86/15).

106. Several countries reiterated their lively interest in the whole question of small pelagic species and their exploitation.

107. The marketing of these products appeared to be a major concern in many countries, as had also been expressed at the technical consultation.

108. The delegations from Spain and Tunisia pointed out the need for efforts to develop new markets for new products.

109. The delegation from Italy expressed the desire to have full information from each country on the market and demand for fresh, frozen and other fish preparations. It appeared that data systems such as INFO projects (see paragraphs 129 and 130) and the FAO/GLOBEFISH data bank could quite easily provide the desired information. It was therefore hoped that INFO and GLOBEFISH representatives could be present at the third technical consultation to report on these services which they had already offered.

110. The Secretariat indicated that a third technical consultation on this issue was scheduled from 6 to 9 October 1987 in Salerno, Italy, and that at that time a completely independent one day meeting of seafood products producers was also to be held to discuss measures which could be taken in order to improve their competitive position and, in particular, to reduce short and medium-term market instability. The Council suggested that the document "Commercial Aspects of a More Rational Exploitation of Mediterranean Fishery Resources", which had been prepared by the Secretariat in 1974 for a Symposium held in connexion with the Twelth Session, be updated for the Salerno meeting.

111. Lastly, the delegation from Spain presented a review of recent work on on board fish chilling and preservation in small containers (70 l capacity) with chilled sea water, and in ice boxes, of various species of small pelagic fish, and on the preparation of minces from bogue (Boops boops). Work made between 1976 and 1984 on sardine and horse mackerel minces were also mentioned; the people involved in this research were hoping to find foreign partners to pursue these studies on a more industrial scale.

VIII. FOLLOW-UP TO THE FAO WORLD CONFERENCE ON FISHERIES MANAGEMENT AND DEVELOPMENT

A. Implementation of the Strategy

112. The attention of the Council was drawn to the fact that the FAO World Conference on Fisheries Management and Development held in Rome from 27 June to 6 July 1984 had adopted an eight-point Strategy on fisheries management and development (Document GFCM/XVIII/86/16) as follows: (1) The contribution of fisheries to national economic, social and nutritional goals; (2) Improved national self-reliance in fisheries management and optimum use of fish resources; (4) The special role and needs of small-scale fisheries and rural fishing and fish-farming communities; (5) International trade in fish and fishery products; (6) Investment in fisheries management and development; (7) Economic and technical cooperation in fisheries management and development; (8) International cooperation in fisheries management and development. Conference Resolution No. 3 had requested the Director-General of FAO to provide the FAO Committee on Fisheries and the Organization's governing bodies with periodic reports on the progress achieved in implementing the Strategy. In pursuance of this request, a circular letter had been sent in April 1986 to the ministers responsible for the fisheries sectors in all Member Nations requesting them to report to FAO by the end of August 1986 on progress made in their countries in implementing the Strategy.

113. The observer from Albania, whose country was being represented for the first time at a Plenary Session of the GFCM, stated that his country had answered the circular letter and summarized the Albanian responses to the questionnaire. Since 1944, striking progress had been made in both the marine and inland fisheries sectors of Albania. This could be attributed to the dual expansion of fisheries staff and the resources at their disposal, as well as a new administrative structure production geared to fisheries management. During the 1986-1990 period, a major production rise was anticipated, and at the same time measures were planned to avoid pollution and protect endangered living organisms.

114. The Spanish delegation stated that its country had submitted to the EEC and FAO a report on the implementation of the Strategy. Spanish participation in the World Conference was very active Spain having, two years prior to the Conference, drawn up a medium-term planning strategy for the Spanish fisheries sector - the core issue at that time being the endorsement of the United Nations Convention on the Law of the Sea at the Third Conference on the Law of the Sea. Spain, within the institutional framework of the FAO World Conference sponsored a Conference of Fisheries Ministers in la Toja in 1985. This was attended by representatives of 25 countries. The Final Declaration clearly stated the willingness of all participating governments to develop the Strategy and the Programmes of Action of the Conference. The text of the Strategy had been a counterforce over the last two years to the thrust of the Economic and Social Plan for the Spanish fisheries sector. The new concepts of the Strategy were to be reflected in the new Plan to be elaborated during the legislative period 1986-1990. As Spain had become a member of the EEC during that time, as of 1 January 1986, Spain would apply and develop the Strategy within the framework of the EEC common policy on fisheries. Concerning the application of the Strategy, Spanish action included a new training programme and intensified fisheries research. Concerning international and technical and economic cooperation there are four aspects: bilateral agreements, multilateral agreements, joint ventures and research. Most bilateral agreements to which Spain is a party contain a series of concepts which fall within the economic and technical context of the Strategy.

115. The delegation from Yugoslavia reminded the Session that an annual three-month training course intended for the developing countries had been in existence since 1981. A great many people in the Mediterranean had already taken advantage of this training course which, as it came under the recommendations of the Strategy, should be entitled to receive increased FAO assistance.

116. The Tunisian delegate pointed out that fisheries was to be the theme of World Food Day on 16 October 1986, a decision no doubt mirroring the occasion of the World Fisheries Conference. He also mentioned his country's interest in food problems, which had recently found expression in the establishment of a Ministry of Food and Agriculture.

117. The Italian delegation recalled that at the time of the World Conference it was foreseen that world fish production would need to rise to around 100 million tons if demand were to be satisfied at current relative prices. It was also noted that out of the then world production of 70 million tons, only 50 million tons were used for direct human consumption and the remaining 20 million were converted into meal and oil and other by-products. Moreover, it was noted that many fish were thrown back at sea and losses during storage and transport were heavy. It would therefore be advisable for the Council to think of a strategy to increase fish production but, at the same time, to work out a better way of utilizing fish products.

118. The same delegation brought out the fact that as far as small-scale fisheries were concerned, the Council had preceded the conclusions of the World Fisheries Conference on better utilization of the coastal strip. In Italy in particular, Law No. 41 permitted a review of coastal management every three years. In addition, Law No. 979 "Provisions for the protection of the sea" was now being implemented. In the view of the Italian delegation, it would be a good idea if all Mediterranean countries set up legal instruments to facilitate fisheries management and development.

B. Programmes of Action

119. The World Conference on Fisheries had also approved five Programmes of Action and the Council took note of ongoing regional activities in the Mediterranean which had concurred with the implementation of these Programmes (Document GFCM/XVIII/86/17).

(a) Programme of Action I - Planning, Management and Development of Fisheries

120. The Council was reminded that the Italian delegation at the Seventeenth Session of GFCM had reiterated Italy's willingness, as declared at the World Conference, to play an active role in fisheries research and to provide financial support for the Regional Project on Fisheries Management and Development recommended by the Council.

121. Participants were briefed on the follow-up discussions held between FAO and the Italian Government within the FAO/Italy Technical Review and Monitoring Panel, on the preparation of a plan of operations for the project for possible Italian financing.

122. The Italian delegate confirmed the intention of his Government to provide financial support to the Project. He pointed out that difficulties of a legal nature had stood in the way of a final decision up to that time, but it appeared likely that the problems would be surmounted within a few months' time, freeing Italy to contribute its support to the Project.

123. The Tunisian delegate stated that the project would bring the Mediterranean countries closer together and establish more effective collaboration among them for approaches to and solutions of problems of mediterranean fisheries. He declared that his country would continue to provide its support to the proposed project and would be pleased to act as the Headquarters country.

124. The Secretariat thanked the Italian delegation for its declaration and expressed the hope that the Project, which would mobilize sufficient resources to substantially round out current action now limited by GFCM funding constraints would, in fact, become a reality. The Secretariat commented that since 1980 when the idea of this Project had first been put forth, virtually every meeting of the GFCM and its subsidiary bodies had stressed its potential for effective, smooth and harmonious fisheries development and management in the Mediterranean.

(b) Programme of Action II - Development of Small-Scale Fisheries

125. The participants noted the growing interest of the Council in the development of small-scale fisheries, as evidenced by the Technical Consultation on Methods of Evaluating Small-Scale Fisheries in the Western Mediterranean held in Sète, France, in May 1986, and the proposed follow-up to this Consultation. (See paragraphs 40 to 46).

(c) Programme of Action III - Aquaculture Development

126. The Council was briefed on recent developments in the Mediterranean Regional Aquaculture Project (MEDRAP). MEDRAP's activities had expanded considerably, particularly during Phase II (1984-86), thanks in part to a considerably larger financial commitment than during the preparatory phase, and in part to a much more active involvement of the participating countries. The Project had also received UNDP funding (Arab and European Bureaux) of some US$ 1 160 000 and a contribution from the Italian Government totalling US$ 2 940 000. The Council was reminded that eleven countries were receiving assistance from the project. UNDP funding had been extended to the end of 1986 and the Italian Government contribution would cover Project operations through 1987.

127. The participants were also informed that a tripartite meeting (FAO, UNDP and invited Member Governments) was expected to meet at project headquarters in Tunis on 20 October 1986, and that there was a good chance that the UNDP would confirm its support for the Project for the next five years to come.

128. In answer to a question on MEDRAP's activities and progress, the delegation of Morocco, where the third meeting of the National Coordinators of MEDRAP had been held in 1985, indicated that the meeting had expressed satisfaction with the highly positive results of the Project, especially since the activities were gradually shifting in orientation from the pilot action and demonstration stage to a stage of money-making commercial production.

(d) Programme of Action IV - International Trade in Fish and Fishery Products

129. The Council was informed that a regional marketing service for the fishing industry in Arab countries (INFOSAMAK) had become operational on 1 March 1986. This project, which would serve the entire Arab region, followed several similar projects already in full sway, i.e. INFOPESCA (Latin America and the Caribbean), INFOFISH (Asia and the Pacific) and INFOPECHE (Africa).

130. In the Council's view, this was a project of great interest for the Mediterranean region. The Council held the view that the project could be particularly helpful in solving certain problems of utilization of small pelagic species. Concerning this matter, it was suggested that the operations of this new service be explained to participants at the Third Technical Consultation on the Utilization of Small Pelagic Species in the Mediterranean Area, to be held in Salerno, Italy, from 6 to 9 October 1987 (see paragraph 109).

(e) Programme of Action V - Promotion of the Role of Fisheries in Alleviating Undernutrition

131. The Council noted that there was no regional project currently underway on this Programme in the Mediterranean region.

C. Follow-up to the Conference: other activities

(a) Long term programme for pollution monitoring and research in the Mediterranean region (MEDPOL)

132. The Secretariat introduced section F of document GFCM/XVIII/86/17 and explained briefly the activities carried out in the framework of MED POL-Phase II which is the scientific and technical component of the Mediterranean Action Plan.

133. A number of delegations showed great interest in the research activities concerning the mercury content in fish and especially tuna in relation to health hazards. They were informed by the Secretariat that preliminary findings indicated that the public at large in the Mediterranean region was not at risk and that the study continued with the investigation of so-called high risk groups such as fishermen and women of child bearing age.

134. As far as the conservation of biotopes was concerned, the Council was informed of the existence of the Specially Protected Areas Protocol in the framework of the Barcelona Convention. Mediterranean countries which had not yet ratified the Protocol were urged to do so as soon as possible. A Regional Centre had been established in Tunis for the implementation of this Protocol and the present chairman of GFCM, who is also the Director of the Centre, gave further information on its functions.

(b) Marking of fishing vessels

135. The Council was informed of steps leading up to, and the recommendations of the Expert Consultation on the Technical Specifications for the Marking of Fishing Vessels held in Rome (16-20 June 1986). It was advised that the

Consultation had made recommendations in respect of the proportions, placement and the colour of such markings, the main features of which were outlined. It was stressed that these recommendations were based as far as possible on the International Telecommunications Radio Call sign and were without prejudice to any existing international conventions, national practices or requirements.

136. The Council noted progress made by FAO in this field and saw no difficulty in accepting the recommendations formulated by the Expert Consultation.

IX. PROPOSALS FOR AMENDMENTS TO THE AGREEMENT AND RULES OF PROCEDURE

137. The Council made the point that the Executive Committee at its Forty-sixth Session had remarked that not all items scheduled to appear on the agenda at the sessions (listed in Article IV of the Rules of Procedure) did always systematically appear. In addition the Committee, having been informed that the GFCM no longer had a budget of its own, had therefore recommended suppressing the items "Report by the Secretary on the financial affairs of the Council" and "Consideration of the proposed budget".

138. The Session expressed the view that a change of this sort would demand a lengthy, burdensome and costly procedure, which seemed undesirable at present given the high-priority work GFCM had before it. The Session also felt that the present situation was not irreversible and that the Council might have to take up the question of its financial affairs at a later date if, for example, as under Article IX-4 of the Agreement, contributions for joint projects undertaken within the GFCM context were paid into a trust fund managed by FAO.

139. The Session therefore concluded that it would be inappropriate to supress the two items in question and that they should on the contrary appear on the agendas of the coming sessions.

X. APPLICATIONS FOR MEMBERSHIP

140. The Council was informed that there had been no applications for membership to GFCM either during the intersession or during the Eighteenth Session.

XI. ITEMS REFERRED TO THE GFCM BY THE CONFERENCE, THE COUNCIL OR THE DIRECTOR-GENERAL OF FAO

141. The Session took note that no item had been referred to the GFCM by the Conference, the Council or the Director-General of FAO.

XII. PROGRAMME OF MEETINGS RECOMMENDED FOR THE NEXT INTERSESSION

142. The Council reviewed the proposed meetings contained in the reports of the technical consultations, which it endorsed, as well as those originating in the present session.

143. On condition that the necessary funds for holding these meetings are available and that Member States are in a position to host them, where necessary, and that the Secretariat can supply the necessary support, the Council recommended that the following meetings be held, meetings which have not been definitively scheduled not being listed in any particular order of priorities.

- Technical Consultation on the Utilization of Small Pelagic Species in the Mediterranean Area, third session. Salerno, Italy, 6-9 October 1987.

- Technical Consultation on Stock Assessment in the Balearic and Gulf of Lions Statistical Divisions, fifth session. Fuengirola, Spain, 19-23 October 1987.

- Technical Consultation on Stock Assessment in the Adriatic, fifth session, Bari, Italy, 1-5 June 1987.

- Technical Consultation on Stock Assessment in the Eastern Mediterranean, second session. Athens, Greece, March 1988.
(The delegate from Greece indicated his country's interest in hosting this Consultation).

- Technical Consultation on Structures and Technologies Designed to Boost Coastal Production, second session. Ancona, Italy (should no other candidate come forth), March 1988.

- Technical Consultation on Red Coral Resources of the Western Mediterranean and their Rational Exploitation

- Committee on Resource Management, seventh session. Rome, June 1988.

- Executive Committee, forty-seventh session, April 1988.

- Nineteenth Session of the GFCM and symposium, Rome, September-October 1988.

144. The Council recommended that the Third Technical Consultation on Stock Assessment in the Central Mediterranean not be held before the Nineteenth Session of the GFCM. The invitation to hold the Consultation in Corsica, though not yet official, still stood but would require confirmation at the proper time by the relevant French Authorities.

XIII. OTHER MATTERS

145. The delegations expressed their sincere gratitude and thanks to the Secretary of the GFCM, Mr. Daniel Charbonnier, for his outstanding work on behalf of the programme of the GFCM over the past twenty years. The Council voiced its unanimous appreciation for Mr. Charbonnier's professional competence and personal qualities, in particular his devotion and efficiency.

XIV. ELECTION OF THE CHAIRMAN AND VICE-CHAIRMEN

146. Upon the proposal of the Nomination Committee which met on 7 October 1986 the following Officers were elected:

Chairman:	Mr. N. Tsimenidis (Greece)
First Vice-Chairman:	Mr. A. Idelhaj (Morocco)
Second Vice-Chairman:	Mr. E. Debernardi (Monaco).

147. On this occasion the Session wished to express its heartfelt congratulations for the efficient leadership of the Council over the past four years, ability to stimulate and organize the debates, interest in the Council and deep human qualities of the outgoing Chairman Mr. Hadj Ali Salem.

XV. DATE AND PLACE OF THE NINETEENTH SESSION

148. The Session recommended that the Nineteenth Session be held two years hence at FAO's Headquarters in Rome, no Member State having extended an invitation during the present Session. In conjunction with that Session it was proposed to hold a symposium. The Secretariat will receive suggestions up to at least 12 months prior to the Session and, based on these, shall attempt to decide on a subject of major interest to the Council.

XVI. ADOPTION OF THE REPORT

149. The report of the Eighteenth Session of the General Fisheries Council for the Mediterranean was adopted on 10 October 1986. On this occasion, the Chairman spoke on behalf of all participants in thanking the Government of His Highness Prince Rainier III of Monaco for the hospitality extended, and also thanked all those who had helped to make this meeting a success.

ANNEX A

Agenda

1. Opening of the Session

2. Adoption of the agenda and arrangements for the Session

3. Report of the Executive Committee

4. Monitoring and assessment of resources

   4.1 Statistics

      4.1.1 Catch and effort statistics
      4.1.2 Economic statistics

   4.2 Assessment

      4.2.1 Assessment at the sub-regional level
      4.2.2 Assessment of small-scale fisheries
      4.2.3 Atlas of the Fisheries of the Western and Central Mediterranean

5. Management of resources and fisheries

   5.1 Consideration of the report of the Sixth Session of the Committee on Resource Management
   5.2 Coastal management: lagoons; open sea shellfish culture and artificial reefs
   5.3 Other activities in the field of management

6. Fishing technology and its socio-economic aspects

7. Utilization and marketing of small pelagic species

8. Follow-up to the FAO World Conference on Fisheries Management and Development

   8.1 Implementation of the Strategy
   8.2 Programmes of Action

      8.2.1 Assessment of fishery resources and management of fisheries in the Mediterranean
      8.2.2 Mediterranean Regional Aquaculture Development Project (MEDRAP)
      8.2.3 INFOSAMAK, INFOPECHE
      8.2.4 Long term programme for pollution monitoring and research in the Mediterranean region (MEDPOL)
      8.2.5 Marking of fishing vessels
      8.2.6 Other activities

9. Proposal for amendments to the Agreement and Rules of Procedure

10. Applications for membership

11. Items referred to the GFCM by the Conference, the Council or the Director-General of FAO

12. Any other matters

13. Election of the Chairman and Vice-Chairmen

ANNEX(E) B

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ANNEX C

List of documents presented to the Session

GFCM/XVIII/86/1	Provisional agenda
1(a)	Provisional annotated agenda and timetable
2	GFCM Statistical Bulletin No. 6: Nominal Catches 1974-84
3	Fishery Statistics in the GFCM Area. Recent action and principal problems encountered
4	Atlas of the Fisheries of the Western and Central Mediterranean
5	Report of the Second Technical Consultation on Stock Assessment in the Central Mediterranean
6	Report of the Fourth Technical Consultation on Stock Assessment in the Adriatic
7	Report of the Fourth Technical Consultation on Stock Assessment in the Balearic and Gulf of Lions Statistical Divisions
8	Report of the Technical Consultation on Stock Assessment in the Eastern Mediterranean
9	Progress achieved and future activities in the field of resource assessment: a summary of the conclusions of the last technical consultations
10	Technical Consultation on Methods of Evaluating Small-Scale Fisheries in the Western Mediterranean
11	Report of the Sixth Session of the Committee on Resource Management
12	Report of the Technical Consultation on Opean Sea Shellfish Culture in Association with Artificial Reefs
13	Management of coastal lagoon fisheries: progress report
14	Report of the Technical Consultation on Fishing Technology and its Socio-Economic Aspects
15	Report of the Second Technical Consultation on the Utilization of Small Pelagic Species in the Mediterranean Area
16	Progress reporting on the implementation of the Strategy for Fisheries Management and Development

GFCM/XVIII/86/17	Progress report on the implementation of the Programmes of Action
18	Report of the Fourty-Sixth Session of the Executive Committee
GFCM/XVIII/86/Inf.1	Provisional list of documents
2	Provisional list of participants
3	Selected Bibliography on Mediterranean Fisheries (April 1984 - February 1986)

ANNEX D

Fishery Statistics in the GFCM Area
Recent Action and Principal Problems Encountered

(a) Operation of the STATLANT System

1. In the intersessional period the STATLANT 37 programme has been carried out in the normal way. Questionnaires were circulated in the spring of 1984, and while the response was generally satisfactory, the quality of the data still leaves much to be desired. Questionnaires were again circulated in the spring of 1985, but this paper is being prepared too soon to make an assessment of either the response or of any eventual improvements in the data.

2. A number of modifications have been made to the system in the period since the 17th Session. As regards the questionnaire itself, the species list preprinted on form 37A has been improved to accommodate the large amount of detail that some countries were supplying. Also, at the request of the Council, alpha-identifier codes have been included on the form.

3. The classification of subareas (but not the areas themselves) has been modified to bring it into line with CWP (Coordinating Working Party on Atlantic Fishery Statistics) practice used in other areas. Instead of numbering subareas and divisions seriatim from west to east the classification is now as follows. (see also attached map - Annex I).

1. Western Mediterranean
1.1 Balearic division
1.2 Gulf of Lions division
1.3 Sardinia division

2. Central Mediterranean
2.1 Adriatic division
2.2 Ionian division

3. Eastern Mediterranean
3.1 Agean division
3.2 Levant division

4. Black Sea

4. A major outstanding problem remains that of the 37B form (see Annex II). Successive sessions of the GFCM and its Working Party on Resource Appraisal and Fishery Statistics have recommended that countries should collect and report data on catches and corresponding effort. These recommendations have normally been coupled with a request that the data should be collected in accordance with the format of the STATLANT B questionnaire, already in use in other areas. This implies that catches and corresponding effort be reported on a separate form for each and every permutation of target species, vessel class, type of gear and statistical division, and all these data be reported monthly.

5. Since the idea was first raised at the 6th Session of the Working Party in 1975, there has been much discussion of the usefulness of the data requested, and while forms for the Mediterranean have been prepared they have to date not been distributed.

6. Although NAFO (Northwest Atlantic Fisheries Organization) and ICSEAF (International Commission for Southeast Atlantic Fisheries) regard the data as indispensable, the CECAF Working Party on Resource Evaluation considered that since the form did not (and could not) collect data on all aspects relevant to the calculation of indices of abundance the form did not fully meet the real needs for stock assessment. The report of the Working Party further commented that it was in the circumstances preferable to rely on estimates of c.p.u.e. calculated by national laboratories. Since the publication of the report of the Working Party other proposals have been made, notably by the CWP at its 10th Session in Madrid in 1980, which recommended certain modifications to the STATLANT B form to meet the needs for stock assessment.

7. The preliminary views of the Council on this matter are sought but as it is a technical problem it is probably appropriate that it should be referred to the technical consultation groups or to the Working Party itself. The problem of collecting data from the artisanal fisheries (however, these may be defined) presents special difficulties, which have been the subject of a Consultation held in Sete, from 13-16 May 1986, the report of which is presented as document GFCM/XVIII/86/10.

8. A number of general developments affecting all areas and therefore also the Mediterranean have occurred in the intersessional period. Among these should be noted the introduction of a FISHSTAT AQ form for the collection of data on aquaculture. The response from Mediterranean countries has been mixed, with replies still outstanding from Egypt, France, Libya, Malta, Romania, and Yugoslavia.

(b) Discrepancies and Other Matters

9. A programme to eliminate discrepancies in the databases of various agencies holding fishery statistics has been embarked on. For the Mediterranean this concerns mainly ICCAT (International Commission for the Conservation of Atlantic Tunas) for tuna data, but also EUROSTAT for those countries who are also members of the European Community (France, Greece, Italy and Spain). Comparison of data held in the GFCM database with that held by ICCAT has revealed significant differences for a number of countries including France, Italy and Tunisia. These discrepancies, which result from the different sources of the data (ICCAT has in most countries its own special scientific correspondent) are being investigated and resolved.

10. Statistical Bulletin No.6, in draft at least, should be available by the time of the Session in early October. Before the publication of Bulletin No.5 the data had been subject to considerable scrutiny and revision using the FISHDAB database as a source of comparison. The Bulletin however was still not printed directly as an output of FISHDAB but as a result of work undertaken in the intersessional period this is now possible and Bulletin No.6 will be the first to be produced in this manner.

11. While this procedure will result in consistency in the data published in the Bulletin and in the Yearbook it will not necessarily improve its reliability. Under previous arrangements it was possible for the data in the Bulletin to be influenced by information derived from scientific enquiries and available to research institutes; the data in the Bulletin might therefore have been different from that supplied by statistical offices for publication in the Yearbook. Investigation of such discrepancies was a potential means of improvement in the data.

12. Particularly confusing for researchers and other users of the data are the discrepancies which occur between statistics published in national publications and those submitted to FAO for publication. They arise because of differences in the time at which the statistics are compiled, subsequent revision to one or other set of data and for other reasons. The Secretariat is currently studying ways of overcoming these problems, but the advice and opinion of delegates would be welcome.

13. Close collaboration has been maintained between member countries and FAO in improvement of either the quality, coverage or timeliness of fishery data. In particular, collaboration with the Italian Ministero della Marina Mercantile, in the establishment of an improved sampling system for the collection of fishery statistics, has continued in 1984 and 1985. In 1985 the results of a detailed vessel census carried out under this programme were published. Work is now proceeding on writing up the results of the work undertaken over the past 4 years and the Italian authorities now have to decide whether to make use of the new methodology in improving the existing less detailed ISTAT system.

14. There has also been co-operation with Cyprus in the processing of data, and with Tunisia in establishing a computerized bibliographic system. There is still much work to be done, however, in improving the quality and detail of Mediterranean fishery statistics. In general this will involve both improved sampling schemes as well as better field level control of the collection system.

(c) Economic Statistics

15. There has been much discussion of the importance of economic data in recent years but expectations in this field need to be tempered with realism. While it is true that economic data is of value to policy makers, recent studies suggest that the amount required is often large and the cost and benefit of having such data needs to be evaluated carefully. Much of the data is of a type not normally collected by fishery authorities, although some of it may be collected by other government departments, e.g. tax offices, and in some cases special ad hoc enquiries will be called for. Apart from the cost of collecting such information, the cost of maintaining a government secretariat capable of analyzing it and translating it into policy prescriptions needs also to be taken into account. It is doubtful if the conditions for collecting and analyzing economic data exist in many Mediterranean countries.

16. Bio-economic information is, however, of considerable importance for management studies, especially in the northern part of the region where high prices compensate for generally low levels of production. Although FAO is collecting certain basic economic statistics, e.g. imports and exports, fleet size, numbers of fishermen, and is presently working on value data and the production of process commodities, the role of the GFCM in this field is probably limited to encouraging the collection of such data and publishing studies on the methodology of data collection and analysis. Delegates are requested to report on any studies undertaken in their own countries and to indicate in what way they feel GFCM could assist this work.

(d) Action by the Council

17. The Council is requested to review the paper and comment on the issues raised, in particular:

i) to make suggestions as to the relative priority to be given to various types of data to be gathered;

ii) to report on any socio-economic studies undertaken;

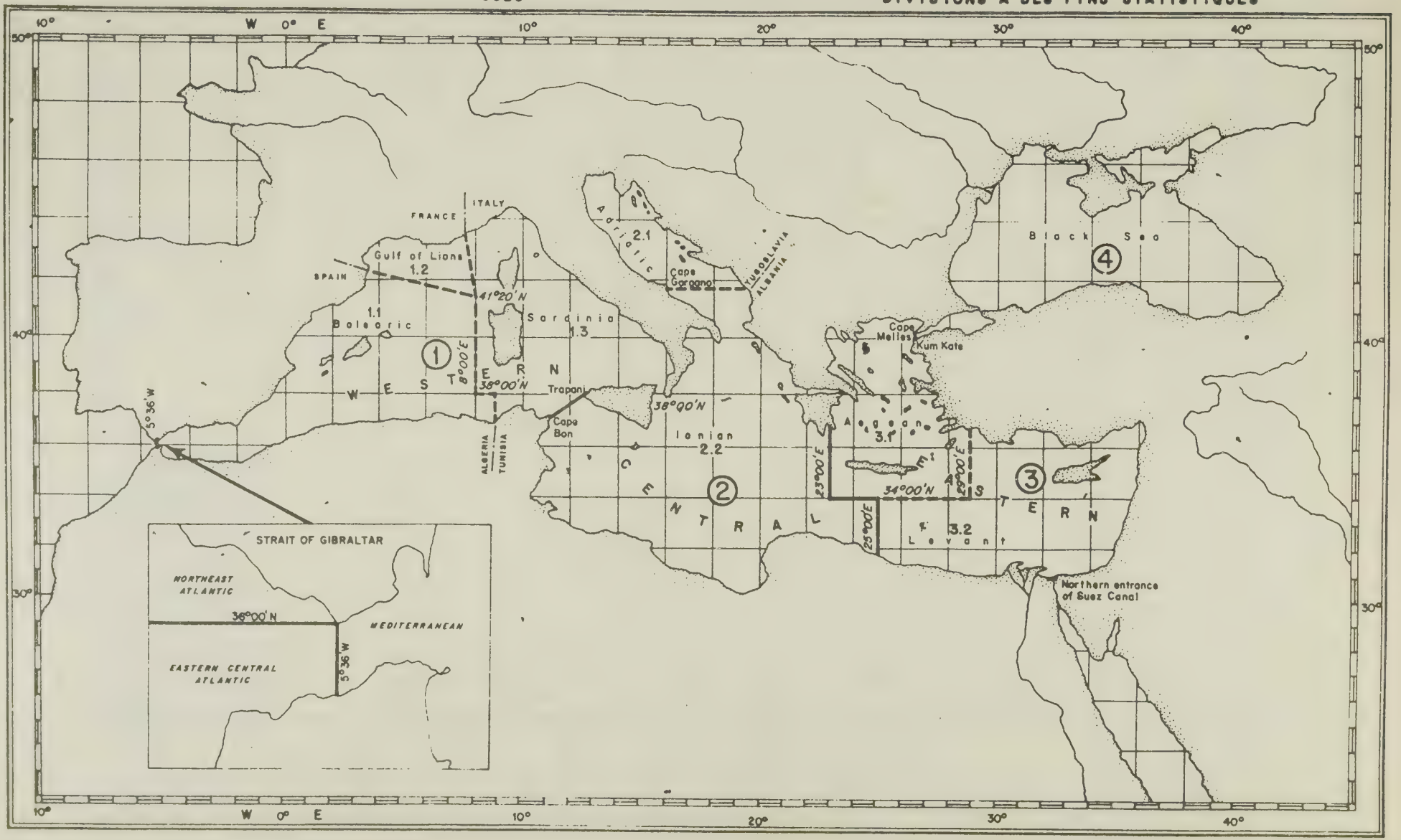
iii) problems of communication between administrators and scientists and between administrative units handling different types of data (economic, social, biological);

iv) to give preliminary views on the value of the data collected by the form 37B and the desirability of referring the issue to the technical consultation groups.

v) problems of supplying aquaculture data.

CHART
MEDITERRANEAN AND BLACK SEA (FISHING AREA 37 - GFCM)
GEOGRAPHICAL LIMITS OF SUBAREAS AND
DIVISIONS FOR STATISTICAL PURPOSES

CARTE
MÉDITERRANÉE ET MER NOIRE (ZONE DE PÊCHE 37 - CGPM)
LIMITES GÉOGRAPHIQUES DES SOUS-ZONES ET
DIVISIONS À DES FINS STATISTIQUES



GFCM/CWP FORM FOR REPORTING NOMINAL CATCHES AND CORRESPONDING FISHING EFFORT — STATLANT 37 B

(a) YEAR	(b) COUNTRY	(c) FISHING GEAR/ METHOD	(d) VESSEL TYPE	(e) VESSEL SIZE	(f) MAIN SPECIES SOUGHT	(g) FAO MAJOR FISHING AREA	(h) ICSEAF SUBAREA OR DIVISION	(i)	(j)	(k)
198						37				No. OF SHEETS

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	(A)
LINE	3-alpha identifiers	EFFORT AND SPECIES ITEMS		January	February	March	April	May	June	July	August	September	October	November	December	Month not known	TOTAL	LINE
		FISHING EFFORT MEASURES (See Section 5.3 of Notes on the Completion of Form STATLANT 37 B for appropriate descriptor at Effort Level A)																
1		A.: (INSERT EFFORT DESCRIPTOR)																1
2		B. No. of days fished																2
3		C. No. of days on grounds																3
4		D. No. of days absent from port																4
5		E. No. of trips made																5
6																		6
7		Average gross tonnage																7
8		Average HP																8
9		Average length, overall																9
10		No. of fishing units operating																10
11		Percent estimated																11
		NOMINAL CATCHES (Live weight equivalent of the landings, in metric tons)																
12		GRAND TOTAL																12
13																		13
14																		14
15																		15
16																		16
17																		17
18																		18
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ANNEX E

Progress achieved and future activities in the field of resource assessment: A summary of the conclusions of the last technical consultations

INTRODUCTION

Since the last GFCM Session, (17-21 September 1984) in Rome, the Secretariat has held five technical consultations, as follows:

- The Second Technical Consultation on Stock Assessment in the Central Mediterranean (24-27 June 1985)
- The Fourth Technical Consultation on Stock Assessment in the Adriatic (7-11 April 1985)
- The Fourth Technical Consultation on Stock Assessment in the Western Mediterranean (16-21 November 1985)
- The First Technical Consultation on Stock Assessment in the Eastern Mediterranean (7-11 April 1986)
- A Technical Consultation on Methods of Evaluating Small-Scale Fisheries in the Western Mediterranean (13-16 May 1980)

The reports of these meetings will be presented to the eighteenth session, and contain a number of suggestions for future work. Where appropriate, these will be generalized for the whole area of concern of GFCM, with reference to each sub-area as appropriate.

PROGRESS ACCOMPLISHED AND PERSPECTIVES FOR THE FUTURE

Building on the firm basis discussed at the Seventeenth Session, it is clear that solid progress is being made in all regions of the GFCM area, in tackling problems that show a degree of similarity between sub-regions, for example fishery assessment, and a considerable degree of cross reference between future consultations will be needed in order that the experts in each field may be able to draw on the new findings from other areas of the Mediterranean. The Council is invited to consider what type of activities and mechanisms seem appropriate for improving in this cross-linkage between consultations. Possible alternatives include dedicating a limited number of meetings each biennium to special topics of wide interest to all member countries of the Council, - a more specific range of topics to be discussed at the Committee on Management, and a revived use of "Studies and Reviews" to bring together invited authors on specific topics under the same cover in the absence of a formal meeting.

However the Council is invited to note that the development of fisheries assessment and management involves the organization of a considerable number of meetings: four technical consultations, one meeting of the Committee on Resource Management and several ad hoc working groups on stock management and special meetings as referred to above during a biennium.

On the other hand these activities need to be weighed against the limited work load the Secretariat of GFCM can support, given the present level of manpower and funding envisaged to be available to the Secretariat in the near future. The maintenance of an adequate level of support for GFCM activities will be a topic of interest to the Council, in its support for co-operative fisheries research in the region.

The efficiency of action of the Secretariat in supporting the work of the Council particularly in promoting research activities, would of course be greatly enhanced by the logistic support provided by a separately funded development project, such as that proposed for the Mediterranean. In the light of the above points, the Council is invited to discuss possible new mechanisms and approaches to locating supplementary funding for backstopping of the work of the Secretariat, in order to allow the present high level of activity to continue and to be built upon.

Questions of strategy with respect to the present organization of a series of sub-regional consultations has been referred to on several occasions. In particular, comments from the last Adriatic Consultation may have general relevance: it was recommended that broad guidelines be applied for future Adriatic consultations, involving the need for prior submission of papers if they are to be considered for publication in the proceedings, and a more coherent theme for each meeting. A return to the original working group concept, and away from the symposium format now current, was also proposed, and will be implemented by the Secretariat if the Council agrees.

The following sections combine a brief description of progress achieved in various fields, together with the relevant recommendations arising from the consultations : where possible grouping together items that seem to apply to the whole geographical areas of responsibility of the Council.

SURVEYS AND MONITORING

Despite the high costs involved in areas where catch and effort data are difficult to collect, trawl surveys are recognized by all Consultations to provide an important source of less ambiguous data for stock assessment than fishery statistics.

Considerable progress in the implementation of standardized trawl surveys for biomass estimation and length frequency distribution continues to be made in most areas, notably in the Adriatic and Central Mediterranean, although questions on the methodological aspects remain to be resolved.

The importance of a degree of standardization in choice of strata, survey timing, gear and type of observations made, especially between national vessels surveying parts of a demersal resource of common interest, was stressed by the Consultation for the Central Mediterranean.

Immediate storage of the data base and close collaboration in the analysis is of course essential for evaluation of resources shared by more than one country, although it is noted that for the Central Mediterranean, speedy implementation of this guideline will depend to a large extent on prompt implementation of the proposed regional project.

The Adriatic Consultation is also deeply concerned with finding the best approach to trawl stratification for each particular situation encountered in the Mediterranean: the possibility of using the known distribution of fish communities is being explored. Density distributions for the main species over the whole Adriatic should be regularly updated together with approximation of confidence limits.

The importance of a standardized national fisheries survey plan was also stressed by the Eastern Mediterranean Consultation; using either research or commercial vessels to monitor long-term changes in abundance of key species.

Regular pre-recruit surveys in known nursery areas would provide useful information for fisheries forecasting (Eastern Mediterranean Consultation).

ENVIRONMENTAL MONITORING AND OCEANOGRAPHIC DATA

Interest has increased in the compilation of long-term time series of environmental parameters as guide to fish stock fluctuations. Thus, for the Adriatic Consultation, an annotated bibliography of time series is in preparation. It seems desirable that this should be complemented from other areas of the Mediterranean.

In the Central Mediterranean particularly, environmental degradation due to uncontrolled discharge of solid waste is a serious preoccupation along the Italian littoral, with adverse consequences on the littoral zone and on fisheries, that the Council will wish to keep under close surveillance, because of their likely serious impact on fisheries.

1) Statistics and sampling

The need for regular and timely reporting and exchange of fisheries statistics, and their publication annually in one of the official languages of GFCM was stressed in the Eastern Mediterranean Consultation, and it is proposed in this area to develop a standardized classification scheme, using a limited number of vessel categories to estimate fleet sizes by port and sub-area. A similar recommendation was made by the Adriatic Consultation, including the need to report data by small-scale fishermen.

Integrated schemes for collection of better data on catch by species and area, plus sampling for key species was stressed by the Eastern Mediterranean and Western Mediterranean Consultations as priorities, as well as by the ad Hoc Small-Scale Fishery Consultation.

The importance of integrated sampling schemes for monitoring the small-scale fishery was stressed by the ad Hoc Technical Consultation held in Sète in May 1986, which noted that if the manpower to set up an integrated scheme is not immediately available, a limited sampling plan for a few key species, areas, and sample fleet(s) should be implemented as soon as possible. This Consultation also noted the key role of first-hand information in accurate statistics gathering; especially for the small-scale sector.

A high priority was also given to improvement of fisheries statistics by the Western Mediterranean Consultation; leading to application of both composite production models, and simple assessment methods to fisheries data. A workshop on sampling techniques was also proposed for the next Western Mediterranean Consultation.

2) Mapping fisheries production

The importance of maps of species distribution and of intensity of fishing by unit area for estimating potential production is now recognized, following the publication of the Fisheries Atlas of the Western Mediterranean. This is hopefully leading to fitting of a joint composite production model in the Eastern Mediterranean. The Adriatic Consultation in particular, has also looked at mapping biocoenoses as a guide to survey stratification, and at the possibiility of producing an oceanographic Atlas for the sub-area, plus a hydrological data base. Detailed bathymetric maps, showing sediments and plant cover have also been developed in Spain, using aerial photography and side scan sonar. Similar priorities for mapping were also recognized by the Eastern Mediterranean Consultation; initially at least, on a national basis; including ports and fleet size and type of boats.

3) Acoustic methods

A demonstration course in Acoustic Methods for the sub-region is proposed by the Institute of Ancona in October-November 1986.

4) Stock units

The definition of stock units for most Mediterranean fisheries has been largely on an intuitive basis for most species and areas. The Adriatic Consultation has been collecting data for or against the existence of 2 sardine populations in the area, and there is some evidence of hake migrations between sub-areas in the Eastern Mediterranean. Further work on this point is evidently needed for most stocks.

5) Fishery impacts

The development of trawl gear that allows fishing over those formerly untrawlable but productive hard corraline bottoms which are of interest to artisanal fisheries with other gear types, was of concern to the Central Mediterranean Consultation, which noted also the likely adverse impact that inshore trawling was having on inshore nursery areas (grass beds). Mapping of areas of likely nursery areas and critical habitats was recognized as a high priority by the Eastern Mediterranean Consultation; and raises some serious practical concerns with respect to surveillance capability and enforcement of closures, and of course, with respect to the effectiveness of current legislation for environmental protection. On the research side, it emphasises the urgency of research on the effects of human activities on these habitats.

6) Mesh size regulations

The fact that a number of countries still do not enforce the minimum 40 mm mesh size recommendations of GFCM was recognized by the Eastern Mediterranean Consultation which noted that for current low sizes and age of first capture, the delay in realizing improved yields would be reduced to less than 1 year, and benefits might be higher than predicted by Y/R analysis.

The Eastern Mediterranean Consultation felt there was also a potential for comparative experiments to determine short-term losses and long-term gains from mesh size changes, using selective closure of different island shelves.

Experience with minimum legal mesh sizes over 40 mm (e.g. the 48 mm in force in Israel) have showed this measure to have been effective in maintaining stable catches.

7) Comparative field studies

Concern about the compatibility of different methods of population estimation for pelagics (acoustics, eggs and larvae, and from analysis of direct and indirect fishing success) is leading to a special meeting in Ancona in 1987 to discuss and compare results.

8) Analytical methods

An evaluation of suitable analytical methods is an on-going process in all areas, and in the last Western Mediterranean Consultation a workshop looked at new simple assessment techniques. The importance of correct estimation of parameter values for yield modelling was also a concern of the Eastern Mediterranean Consultation. It is apparent that we are not yet in a position to decide on the appropriate "mix" of assessment techniques in Mediterranean fisheries, but a useful comparison of results from different techniques seems called for at this time.

9) Age and growth

A great deal of interest still is shown in all areas in the 'best' approach to growth parameter estimation. Some special problems are posed here by the heavy exploitation early in the life history, making large individuals difficult to find for growth curve fitting. Potential biases may occur that will affect yield advice, and the Secretariat is looking at the question of growth curve fitting and will report in 1987. The need and biases in sampling for growth analysis have to be better defined also, and there is still some uncertainty on the relative emphasis to be placed on age reading and size frequency analysis.

An otolith exchange programme for key species is of interest in the Eastern Mediterannean, and guidelines are being developed.

10) Mortality rates

The difficulties of estimating mortality rates when there is often uncertainty about growth and migration was recognized by several consultations. The likely migration of hake between the Adriatic and Ionian Seas for example, poses problems in parameter estimation using simple methods. The need to sample through the stock range was stressed by the Eastern Mediterranean Consultation, which again requires better definition of stock units. High mortality rates seem generally to apply however, and in some areas (e.g. Cyprus) have been continuously rising.

11) Data storage and computer analysis

The need for speedy computer processing of fisheries statistics is widely recognized, and a number of member countries could benefit from assistance in the area.

The importance of improved software for data analysis was also stressed by the Eastern Mediterranean Consultation.

12) Bioeconomic studies

The overriding importance of economic factors in assessment of optimal yield of what are for demersal fish, high unit value resources by world standards, was recognized by all Consultations. The Western Mediterranean Consultation proposed a

workshop on bioeconomic models as a possible alternative for their next session. A cost benefit analysis of the Yugoslav pelagic fishery is proposed for the next Adriatic Consultation, and the same meeting proposed that since the extremely high rate of fishing for demersals is often wrongly defended on economic grounds, that the current cost of overfishing to the state and the consumer be documented objectively in such cases, to evaluate overall losses and economic risks to the fisheries sectors.

The meeting on small-scale fisheries held in Sète, focussed in particular on the need for correct information on seasonal prices and their fluctuations, and detailed data on the costs of fishing.

13) Co-operative research

The Adriatic Consultation gave priority to an international co-operative survey of pelagic stocks, incorporating both cruises, port sampling and fleet statistics.

SUGGESTED ACTION BY THE COUNCIL

The Council is invited to consider the conclusions of the Technical Consultations on stock assessment which were held during the biennium and to endorse their reports, particularly the programmes of cooperative research and the dates of the successive consultations

ANNEX F

Questionnaire of Possibilities of Support to GFCM Activities

NAME OF COUNTRY:

Recognizing the growing number of requests for meetings to discuss various aspects of the work of the Council, but a limited degree of manpower and funding available to the Secretariat to provide support for these meetings, national delegations are asked to place in order of priority or feasibility the following proposed mechanisms for improving the effectiveness of the Council:

Priority 1 = Highly feasible
2 = Feasible
N = Not feasibile

(1) Reducing the number of sub-regions of GFCM for which repeated consultations are necessary. [ ]

(2) Leaving the timing of sub-regional consultations and their relative priority flexible; to be decided by the Secretariat on the basis of the recommendations of the consultations and of availability of data from all parties. [ ]

(3) Allocating a few days during each meeting of the technical consultations [ ] the Committee on Resource Management [ ] and the Council itself [ ] to be devoted to a topic of special interest, thus reducing the need for special meetings.

(4) Providing at member country's expense:

(a) facilities, staff time for organizing, and expenses for hosting, meetings of the Council on topics agreed to by the Council. [ ]

(b) providing on a short (one/two weeks) [ ] or medium term (1-6 months) basis [ ] (all expenses paid) [ ] national staff to supplement the work of the Council, either in preparation and editing of documents [ ] in field work [ ] or in analysis of data [ ] requested by the Council or its subsidiary bodies.

(c) Contributing to a trust fund to pay for specific running expenses of the Council [ ] or more particularly, toward the holding of meetings of particular interest to the countries concerned [ ].

Remarks or additional proposals

[It is recognized that responses to this questionnaire may only be indicative at this stage. Explicit offers on item 4 ideally should be confirmed to the Secretariat at the earliest convenience of Member States]

ANNEX G

Suggested Procedures and Broad Terms of Reference for Future Ad Hoc Meetings Under the Aegis of GFCM to Assess Subregional or Regional Resources of the Mediterranean Sea

1. Relevant Extracts from Basic Texts of the Council, Volume III, Fascicle 7

Under the Agreement of GFCM, one of the functions spelled out under Article III (b) is "regulating the amount of total catch and fishing effort and their allocation among Members" for any marine resource occurring within those territories which participating states wish to consider as being included under the terms of reference of the Agreement.

To this end the Council may establish at its regular meetings [Article VII (1 and 2)] "working parties to recommend on specific technical problems" which "shall be convened by the Chairman of the Council at such times and places as are determined by the Chairman in consultation with the Director-General of the Organization".

It is also relevant to consider Article VII (4) according to which the expenditures associated with the establishment of such working parties shall be subject to the availability of funds within the Organization, and Article IX (1) stating that the expenses of government representatives attending shall be determined and paid for by their respective governments.

It is also anticipated [Article IX (4)] that any expenses in research involved in such meetings could "be paid into a trust fund to be established by the Organization in accordance with the Financial Regulations and Rules of the Organization".

2. Proposed Procedure

In the event of two or more Member States of GFCM wishing a special meeting to be convened to consider the appropriate level of catches and their allocation for a resource lying within an area of the Council's jurisdiction (as defined above), the suggested steps could be as follows:

(i) The parties should notify the Council of this requirement at its regular meetings.

(ii) The Council should discuss the issue and make recommendations to the Organization.

(iii) The Organization should consider what are the data and research needs for proper resolution of the problem, and develop if necessary a research programme to collect data in conjunction with all interested parties.

(iv) Any costs of the research and of the meeting to FAO should be discussed by the Organization with involved parties.

(v) A meeting or meetings should be scheduled by FAO.

(vi) Advice on the practical management options to be followed, should be presented at the next session of the GFCM Committee on Resource Management and forwarded to the Council for Approval.

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